INTERNAL WORKING DOCUMENT NO. 87-12

1987 AERIAL HERBICIDE APPLICATION PROGRAM

Natural Resources and Energy / Ressources naturelles et Energie

Department of Natural Resources and Energy
Timber Management Branch

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OPERATIONAL REVIEW

A total of 21,103 hectares of Crown land plantations and naturally regenerated cutover areas were initially proposed for aerial herbicide treatment by the Licensees in 1987. Inspections of the proposed areas and consultations between Regional DNRE staff and the Licensees resulted in a number of revised plans that were re-submitted starting in May, until a final version was ratified in early July (Table 1), totalling 19,942 hectares.

Arrangements were made with the Southern New Brunswick Wood Co-operative Ltd. for DNRE to treat an additional 300 hectares of private land at their cost.

Three Bell 206B Jet Ranger helicopters from Trans Maritime Helicopters Ltd. (2 at $24.75 per hectare and 1 for $28.80 per hectare), one Bell 206B from Trans Canada Helicopters Ltd. at $34.60 per hectare and 2 Rockwell Thrushes from Cedar Brook Farms Ltd. at $21.50 per hectare were contracted to carry out the aerial application. In addition, three spotter aircraft were contracted; Two Bell 47G2's from Trans Maritime Helicopters at $100.00 per flying hour plus $395.00 per day for each machine and one Hughes 300C from Helicraft Ltd. at $125.00 per flying hour plus $320.00 per day. An agreement was also negotiated with J.D. Irving Ltd. for them to treat approximately 2,150 hectares at DNRE cost.

A total of 83,410 litres of Vision herbicide was purchased from Monsanto Canada Inc. (Mississauga, Ont.) for $18.80 per litre (12,765 of these litres were purchased from funds left over in the 1986 budget).

On July 23, 1987 an application for a spray permit along with detailed maps of the areas requested for treatment were delivered to the Department of Municipal Affairs and Environment. On July 31, 1987 a formal permit was signed by its Minister giving Timber Management Branch the authority to carry out spray operations (Appendix I).

All necessary mixing equipment, vehicles, trailers, etc. were assembled and made ready several days prior to the commencement of the program. A total of 27 casual employees were hired to help carry out the program (Appendix II).

Prior to the start of operational spraying, maps outlining the spray blocks were sent to Regional DNRE headquarters for dispersal to their District offices. These maps were used by District staff to inform the public as to spray location and timing. Regional staff supplied TMB spray crews with tanker services as well as experienced local staff who assisted in the overall logistics.

Spraying commenced on the evening of August 11th. During the next 39 days, DNRE spray crews plus J.D.I. Ltd. were able to treat 18,841 hectares of Crown land and 292 hectares of private land. Eleven hundred hectares were omitted from the planned 19,942 ha after on site inspection during spray operations, indicated they did not require treatment in 1987. A breakdown of the costs incurred on the program, area treated, rates used, locations, etc. are found in Table 2 and Appendices III and IV.

TABLE 1. Chronological sequence of revisions proposed by the Licensee for the 1987 herbicie program

Licensee	#HA PROPOSED 02/12/86	29/05/87	08/06/87	*24/06/87	*10/07/87	# ha Actually Treated
Upsalquitch	1200	1200	1959	1929	1929	1941
Nepisiguit	1150	1150	1098	1125	1167	1189
Lower Miramichi	817	741	817	817	817	853
Upper Miramichi	1100	3077	3077	3077	1786	786
Kent	30	30	30	30	0	0
Queens-Charlotte (2)	1430	847	847	846	493	485
(3)	3350	3350	4147	4149	3785	3802
(4)	2629	2629	2628	2628	2089	1988
Total	7409	6826	7622	7623	6367	6275
Fundy (3)	1475	1085	1085	1085	1386	1354
(4)	556	556	556	556	663	688
Total	2031	1641	1641	1641	2049	2042
York	744	744	744	744	801	754
Carleton	926	926	926	926	926	903
Restigouche-Tobique	5570	5570	4543	4210	4100	4098
T O T A L	21103	21905	22457	22122	19942	18841**

* estimated dates.

** 3408 ha of these areas were naturally released with manual softwood thinning planned at a later date.

Table 2. Cost analysis of the 1987 herbicide program

			TOTAL COST($)	COST/HA($)
DNRE	CHEMICAL	Vision	1,424,345*	85.91
16580 ha treated				
	AIRCRAFT	Sprayers	445,904	26.89
		Spotters	77,367	4.67
			523,271	31.56
	LABOUR	Salaries	67,811	4.09
		Motels	25,371	1.53
		Expenses	19,217	1.16
		Groceries	4,853	.29
			117,251	7.07
	VEHICLES	Rental	52,736	3.18
		Repairs	6,773	.41
		Gas, Oil, etc.	16,287	.98
		Tires	2,183	.13
			77,979	4.70
	OTHER	Mixing Equipment	1,728	.10
		Safety Equipment	2,471	.15
		Other Supplies	4,236	.25
		Communications	2,795	.17
			11,230	.68
	TOTAL		2,154,076	129.92
JDI				
2261 ha treated	CHEMICAL	Vision (supplied by DNRE)	201,066*	
	DNRE PAYMENT TO JDI FOR SPRAY COSTS (DNRE cost for 2261 ha less chemical cost)		92,683	
	TOTAL		293,749	129.92
18841 ha treated			$2,447,825	$129.92
	HERBICIDE SURVEYS	Salaries	14,525	
		Motels	2,882	
		Expenses	1,285	
		Gas, oil, etc.	5,076	
			23,768	1.26
	EXPERIMENTAL TRIAL(EP-8-87)	Vision	1,720*	
		Aircraft	1,800	
			3,520	0.19
	TOTAL		2,475,113	131.37
	**PERMANENT STAFF	Salaries	13,082	0.69
	TOTAL		$2,488,195	$132.06
	MANUAL PLANTATION CLEANING (81 ha)		19,938	
	TOTAL		$2,508,133	

* Amount of Vision or Roundup used in the 1987 program.

69242 L	Vision purchased from 1987 budget @ $18.80/l	$1,301,750
12765 L	Vision purchased from funds left over in 1986 budget @$18.80/l	$ 239,982
4090 L	Roundup left over from 1986 program @ $20.88/l	$ 85,399
86097 L	Total amount used	$1,627,131
1403 L	Vision inventory left over from 1987 program	$ 26,376

** Covers salaries of permanent staff during spray period (Aug. 11 to Sept. 19)

APPENDIX I
Permits issued by the Dept. of Municipal Affairs and Environment

MINISTER OF MUNICIPAL AFFAIRS
AND ENVIRONMENT
Province of New Brunswick

MINISTRE DES AFFAIRES MUNICIPALES
ET DE L'ENVIRONNEMENT
Province du Nouveau-Brunswick

P.O. Box/C.P. 6000, Fredericton, N.B., Canada, E3B 5H1 Tel. (506) 453-2558

July 31, 1987

Department of Natural
Resources and Energy
Timber Management Branch
R.R. #10, Regent St
Fredericton, N. B.
E3B 6H6

Dear Sirs:

This will acknowledge receipt of your July 17, 1987 application on behalf of the Department of Natural Resources and Energy.

In accordance with Section 12(1) of the Pesticides Control Act, this Permit No. P73, hereby authorizes the aerial application of pesticides for site preparation and/or conifer release to 20,000 hectares of Crown land around the province plus 400 hectares of private land in the Sussex area as outlined in your submission, subject to the following conditions:

1. That only the following pesticides are permitted and must be used according to label instructions:

HERBICIDES	PCP NO
Roundup	13,644
Vision	19,899

2. That additional areas and/or pesticides may be added to your permit only after written approval has been given;

3. That a setback from occupied habitation of 155 m be maintained;

4. That only those areas approved by the Pesticides Advisory Board be treated;

5. That no spraying be conducted within 65 m of bodies of water with the exclusion of intermittent streams which are dry at the time of application;

6. That no spraying be conducted when wind speeds at the treatment area exceed 16 km/hr;

7. That no spraying be conducted 3.2 km upstream from the point of extraction of any municipal surface drinking water supplies;

8. That the areas to be treated are clearly identified for the pilot;

9. That access to the areas being treated be controlled and that signs be posted for the season;

10. That no human flagmen be used;

11. That all personnel involved in the supervision of mixing and loading operations; all personnel involved in the guidance of the aircraft administering the pesticide; and, all personnel applying the pesticide, must hold a valid Class A certificate;

12. That all personnel involved in the mixing and loading of pesticides must wear coveralls, footwear and gloves impermeable to the pesticide, splash shield and a half-faced respirator with NIOSH approved pesticide cartridges;

13. That the Chairman or staff of the Toxic Substances Section be notified a minimum of 48 hours prior to the intended date of the commencement of your program;

14. That cooperation be given to any monitoring personnel or inspector;

15. That the procedure for the disposal of empty pesticide containers be strictly adhered to;

16. That a summary of pesticides used for 1987 be forwarded to the Chairman of the Pesticides Advisory Board no later than December 31, 1987; and,

17. That this permit will expire September 30, 1987.

Yours truly,

R.C. Jackson

R. C. JACKSON
Minister

APPENDIX II
TMB Spray Crew Organization

1987 Herbicide Spray Operation
Organization

M.K. Barteaux
Director Reforestation and Silviculture

Mack McDonald
Chief of Operations
Supervisor Crew #1
(2 Bell 206-B sprayers and 1 Bell 4762 spotter)

Ground Supervisor - Richard Courier

John Reed
Superisor Crew #2
(2 Rockwell Thrush sprayers
and 1 Hughes 300C spotter)

Ground
Supervisor - Danny Crain

Don Carlin
Supervisor Crew #3
(2 Bell 206-B sprayers and
1 Bell 47G2 spotter)

Ground
Supervisor - Chuck Harding

Each ground crew also consisted of a mixer, a loader, two truck drivers and 4 road blockers.

APPENDIX III
Area sprayed in hectares by herbicide, rate and volume delivered

APPLICATOR	RATE OF VISION L/ha	AREA ha	SPRAY VOLUME L/ha	TOTAL VOLUME DELIVERED L	OVERLAP %
DNRE	4.20	15959	37	640871	+8
	4.94	621	37	25297	+10
DNRE TOTAL		16580		666168	
JDI	4.32	1111	37	44665	+9
	4.94	678	37	24831	-1
	3.71	201	47	10015	+6
	3.71 4.32	196	47 37	6058	N/A
	3.71 4.32 4.94	179	47 37 37	5332	N/A
JDI TOTAL		2365		91891	
T O T A L		18945 - 104* 18841		758059	

* JDI treated 104 ha without DNRE's permission but with Vision supplied by DNRE.

APPENDIX IV
Area Sprayed in hectares, by Licensee

1987 HERBICIDE PROGRAM

LICENSEE: UPSALQUITCH REGION: 1

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
1-1-26	Popelogan	143	143	4.2	0035,0705	Aug 13 pm	6 132	TMH[1] 1.58
1-1-45	Popelogan	340	340	4.2	0034,0036,0037,0038 0039,0715,0717,0725	Aug. 12 pm; Aug 13 am,pm	14 074	TMH 4.73
1-1-48	Jacquet River	409	409	4.2	0020,0302,1120,1121	Aug 12 am	15 511	TMH 5.55
1-1-65	Grog	65	75	4.2	1107	Aug 29 am	2 802	CBF[2] 2.00
1-1-68	Little Popelogan Bk.	68	73	4.2	0051,0053	Aug 26 am; Aug 29 am	2 575	CBF 1.38
1-1-70	Tetagouche R.	89	89	4.2	0418	Aug 21 am; Aug 27 am	3 332	CBF 1.73
1-1-91	Upsalquitch Forks	23	22	4.2	0056	Aug 26 am	833	CBF 0.45
1-1-95	Lower Tetagouche Lk.	130	55	4.2	1070,1111	Aug 30 am	2 021	CBF 1.00
1-1-92	McCormack Bk.	68	77	4.2	0068	Aug 21 am	2 429	CBF 1.52

1 TMH refers to two of the Bell 206B Jet Rangers contracted from Trans Maritime Helicopters Ltd.

2 CBF refers to the Rockwell Thrushes contracted from Cedar Brook Farms Ltd.

1987 HERBICIDE PROGRAM

LICENSEE: UPSALQUITCH (continued) REGION: I

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
I-I-113	Williams Bk.	180	181	4.2	0517,0518,0520	Aug 21 pm; Aug 26 am	6 670	CBF 2.25
I-I-114	Williams Bk.	55	61	4.2	0515	Aug 26 am	2 102	CBF 1.05
I-I-115	Budworm City	135	167	4.2	0572	Aug 29 am	6 926	CBF 2.00
I-I-136	Mt. Gordon	70	75	4.2	0529,0534	Aug 22 am; Aug 28 pm	2 828	CBF 1.42
I-I-137	Mt. Villebon	111	127	4.2	0525,0527	Aug 27 pm; Aug 28 pm	4 972	CBF 2.40
I-I-138	Portage Lakes	43	47	4.2	0513	Aug 29 am	1 741	CBF 0.57
TOTAL		1 929	1941	4.2			74 948	29.63

1987 HERBICIDE PROGRAM

LICENSEE: NEPISIGUIT REGION: 1

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
1-2-95	Armstrong Bk.	22	22	4.2	9713	Sept 5 am	909	CBF 0.62
1-2-117	Anaconda Mines	250	278	4.2	0007, 0295, 0068	Aug 27 am; Aug 28 am	10 944	CBF 5.05
1-2-118	Middle River	75	76	4.2	0053A, 0053B, 0245	Aug 30 am; Aug 31 am	3 029	CBF 2.12
1-2-119	Little River	233	233	4.2	0017, 0033, 0255, 9638	Aug 30 pm; Aug 31 pm Sept 3 am; Sept 5 am	10 375	CBF 4.94
1-2-137	Moose Bk.	134	159	4.2	004, 0251A, 0251B	Aug 22 am; Aug 26 am Aug 27 pm	6 209	CBF 2.98
1-2-139	T.V. Tower	167	163	4.2	0269, 0293, 9708	Aug 28 am	6 287	CBF 2.45
1-2-141	Nine Mile Bk.	128	103	4.2	0050, 0273	Sept 5 am	5 074	CBF 1.93
1-2-164	Grants Lk.	127	127	4.2	0105, 0276A, 0276B	Sept 8 am; Sept 13 am	5 904	CBF 2.82
1-2-166	Brunswick Mines	31	28	4.2	9633	Sept 5 am	1 060	CBF 0.72
TOTAL		1 167	1 189	4.2			49 791	23.63

1987 HERBICIDE PROGRAM

LICENSEE: LOWER MIRAMICHI REGION: 1, 2

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
1-3-0368	East Branch Lk.	76	76	4.2	0033,0037,0056	Aug 14 pm	3 102	TMH 0.47
2-3-0593	N.Br. Big Sevogle R.	313	330	4.2	0025,0039	Sept 6 pm; Sept 7 am, pm Sept 8 am, pm; Sept 15 am Sept 19 am	13 512	CBF 3.75
2-3-0594	Stony Bk.	170	174	4.2	0084, 0179	Sept 8 am, Sept 15 am Sept 16 am	6 481	CBF 3.37
2-3-0596	Fraser-Burchill Rd.	110	113	4.2	0082,0170	Sept 13 am	4 771	CBF 2.15
2-3-0652	Sheephouse Bk.	27	74	4.2	0385	Sept 13 am; Sept 15 am	2 801	CBF 1.33
2-3-321	Black Bk.	86	86	4.2	0373,0376,0616	Aug 27 pm	3 632	TMH 0.92
TOTAL		782	853	4.2			34 299	11.99

1987 HERBICIDE PROGRAM

LICENSEE: UPPER MIRAMICHI REGION: 2

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
2-4-0523	Heath-Steele Mines	361	218	4.2	0011	Sept 7 am; Sept 8 am	8 856	CBF 3.52
2-4-0524	N.Br. Tomogonops R.	179	182	4.2	0542	Sept 6 am; Sept 7 am Sept 8 pm; Sept 13 am	6 898	CBF 2.77
2-4-191	N.Br. Tomogonops R.	114	51	4.2	0053	Sept 13 am	2 120	CBF 1.23
2-4-192	Gordon Meadow Bk.	308	24	4.2	0503	Aug 14 pm	908	TMH 0.93
2-4-0591	Slacks Lk.	228	230	4.2	0078	Sept 17 am, pm	8 856	CBF 2.55
2-4-210	Big Sevogle R.	88	81	4.2	0577	Sept 17 pm; Sept 19 am	2 952	CBF 0.82
TOTAL		1 278	786	4.2			32 208	11.82

1987 HERBICIDE PROGRAM

LICENSEE: QUEENS-CHARLOTTE REGION: 2, 3, 4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
2-6-1018	Leighton Bk.	150	150	4.2	1504	Aug 22 am	7 718	TMH 1.57
2-6-1079	W.Br. Burnt Land Bk.	72	64	4.2	0003A, 1295	Aug 27 am	3 632	TMH 0.77
2-6-0889	Little Dungarvon R.	271	271	4.2	1697, 1698	Aug 24 am; Aug 25 am Aug 27 am	9 534	TMH 2.22
TOTAL REGION 2		493	485	4.2			20 884	4.56
3-6-1023	Big Forks Str.	543	112	3.71	1243	Aug 31, Sept 2	20 880	JDI*
			430	4.32	1246, 0361, 0502, 0566 1206	Sept 6, 7, 11, 12		N/A
3-6-1025	Trout Bk. Airstrip	191	88	4.32	0102	Sept 6, 7	9 072	JDI
			111	4.94	1531, 0225	Sept 1, 2, 7, 11, 12		N/A
3-6-1026	Salmon R.	40	40	4.32	0171	Sept 11, 12	2 070	JDI N/A
3-6-1027	Salmon R.	269	228	4.32	0104, 0303, 9988	Sept 5, 6, 7	9 261	JDI N/A

* JDI refers to the aircraft used by J.D. Irving Ltd.

1987 HERBICIDE PROGRAM

LICENSEE: QUEENS-CHARLOTTE (Continued) REGION: 2, 3, 4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
3-6-1081	W.Br. Gordon Bk.	134	122	4.2	3-8-40	Aug 17 pm	2 981	TMH 0.68
3-6-1082	E.Br. Gordon Bk.	1 315	1 296	4.2	1529, 1530, 3-8-35A, 3-8-35B, 3-8-36B, 3-8-37, 3-8-38, 3-8-218, 9986, 9987	Aug 15 pm; Aug 17 am, pm Aug 18 am; Aug 19 am	42 702	TMH 10.00
3-6-1083	Gaspereau R.	271	260	4.2	3-8-24B, 3-8-58	Aug 19 pm; Aug 20 am	9 719	TMH 3.12
3-6-1084	Gaspereau R.	390	390	4.2	0216, 3-8-33B, 3-8-33C 3-8-34A, 3-8-34C, 3-8-51, 3-8-220A	Aug 20 am, pm; Aug 21 am Aug 22 am	15 436	TMH 4.67
3-6-1085	McKean Bk.	16	16	4.2	0014	Aug 21 am	454	TMH 0.23
3-6-1086	Trout Bk. Lk.	25	14	4.94	0172	Sept 7	709	JDI N/A
3-6-1088	E.Br. Little Forks Str.	92	92	4.94	0203, 0203C	Sept 7, 11, 12	3 263	JDI N/A
3-6-1089	Lake Str.	140	178	4.94	1525	Sept 5, 6	5 292	JDI N/A

1987 HERBICIDE PROGRAM

LICENSEE: QUEENS-CHARLOTTE (Continued) REGION: 2, 3, 4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
			50	4.32	0107	Sept 11,12		JDI
3-6-1090	Lake Str.	155	130	4.94	1526	Sept 6,7,11	7 466	N/A
								JDI
3-6-1153	Bronson Sett.	106	127	4.94	0209,9970,0375	Sept 5,6,7	5 339	N/A
								JDI
3-6-1222	The Ridge	90	118	4.32	0043	Sept 7	3 969	N/A
			112	3.71				
			954	4.32				
			2 084	4.2				
			652	4.94				
TOTAL REGION 3		3 777	3 802				138 613	
								TMCH*
4-6-1593	Shin Creek Rd.	183	183	4.94	9705-1,2,3,4	Aug 29 am	7 559	3.25
								TMCH
4-6-1652	White Birch Lk.	46	56	4.2	0346	Aug 30 am	2 486	1.12
					9705-5,6			TMCH
4-6-1653	Shin Creek Rd.	281	254	4.94	9949	Aug 29 am, Aug 30 am	10 605	3.42

* TMCH refers to 2 Bell 206B Jet Rangers, one contracted from Trans Maritime Helicopters Ltd. and the other from Trans Canada Helicopters Ltd.

1987 HERBICIDE PROGRAM

LICENSEE: QUEENS-CHARLOTTE (Continued) REGION: 2, 3, 4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
4-6-1702	Magaguadavic R.	42	42	4.2	9940	Sept 5 pm	1 441	TMCH 0.78
4-6-1703	Upper Niles Bk.	79	90	4.2	0149	Aug 30 am; Aug 30 pm	4 166	TMCH 1.08
4-6-1704	Mt. Pleasant	481	464	4.2	0150,0157,0352, 9961,9962,9948	Aug 30 pm; Aug 31 am; Sept 2 am	21 691	TMCH 6.00
4-6-1749	Little Long Lk.	74	83	4.2	0152,0339,0348	Aug 31 am	3 218	TMCH 0.73
4-6-1751	West Long Lk.	546	581	4.2	0146,0147,0153,9938 9954,9957,9958,9963	Sept 2 am; Sept 3 am,pm Sept 4 pm; Sept 5 am	21 842	TMCH 4.85
4-6-1792	Wellington Lk.	207	235	4.2	0029,0342,9708,9709	Sept 5 am	9 338	TMCH 2.97
			437	4.94				
			1 551	4.2				
TOTAL REGION 4		1 939	1 988				82 346	24.20
			4 120	4.2				
			112	3.71				
			954	4.32				
			1 089	4.94				
TOTAL		6 209	6 275				241 843	

1987 HERBICIDE PROGRAM

LICENSEE: FUNDY REGION: 3,4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
								TMH
3-7-1094	Village-des-Cormier	27	27	4.2	9996	Aug 21 pm	908	0.33
			25	3.71				JDI
3-7-1228	Murphy Meadow Bk.	100	171	4.32	9985	Sept 23	6 048	N/A
								JDI
3-7-1304	Miller Bk.	157	157	4.32	0123	Sept 5,6	6 520	N/A
			80	3.71				
			58	4.32				JDI
3-7-1382	Coles Island Fire Rd.	121	41	4.94	5002	Sept 4,5	6 332	N/A
			179					
								JDI
3-7-1459	N.E.Br. Long Ck.	18	26	4.94	9769	Sept 5	945	N/A
								TMH
3-7-1540	Teahans Corner	148	148	4.2	9789,9790	Aug 31 am	5 221	1.93
						Sept 2 pm; Sept 3 pm		TMH
3-7-1609	Pollett River	635	585	4.2	0111,0112	Sept 4 am,pm; Sept 5 am	24 062	6.72
								TMH
3-7-1666	Bonnell Bk.	180	140	4.2	9895	Aug 30 pm	4 086	0.93

1987 HERBICIDE PROGRAM

LICENSEE: FUNDY REGION: 3,4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
			105	3.71				
			900	4.2				
			386	4.32				
			67	4.94				
TOTAL REGION 3		1 386	1 458				54 122	
4-7-1078	McGivney	167	138	4.2	0203,0272	Aug 28 am	6 810	TMH 1.53
4-7-1079	McGivney	110	110	4.2	0303	Aug 28 am	4 086	TMH 0.80
4-7-1145	Zionville	174	174	4.2	0290,0705	Aug 29 am	7 264	TMH 1.37
4-7-1215	Upper Durham	42	92	4.2	0038	Aug 29 am	3 178	TMH 1.08
4-7-1298	Little River	85	89	3.71	0202,0302	Sept 3,4	4 725	JDI N/A
4-7-1752	Crystal Lk.	85	85	4.2	0056	Sept 3 pm; Sept 4 am	3 365	TMCH 1.33

1987 HERBICIDE PROGRAM

LICENSEE: FUNDY REGION: 3,4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
			89	3.71				
			599	4.2				
TOTAL REGION 4		663	688				29 428	
			194	3.71				
			1 499	4.2				
			386	4.32				
			67	4.94				
TOTAL		2 049	2 146				53 490	
			- 104					
			2 042					

1987 HERBICIDE PROGRAM

LICENSEE: YORK REGION: 4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
4-8-1140	Lower Lake	150	50	4.2	0061	Aug 27 am	2 122	TMCH 0.82
4-8-1142	Tay River	109	109	4.2	0087,0088	Aug 28 pm	4 540	TMH 0.85
4-8-1143	Tay Valley	19	19	4.2	0011	Aug 28 pm	1 362	TMH 0.30
4-8-1208	Millville	43	43	4.2	0089	Aug 28 am	1 858	TMCH 0.43
4-8-1294	Herlett	74	74	4.2	1031	Aug 27 am,pm	2 998	TMCH 1.03
4-8-1442	Shogomoc Str.	56	56	4.2	1036	Aug 28 am	2 275	TMCH 1.90
4-8-1444	Little Poklok Str.	105	105	4.2	0020	Aug 28 am	4 360	TMCH 1.20
4-8-1363	Pocowogamis Str.	94	94	4.2	0016	Aug 28 pm	3 716	TMCH 0.65
4-8-558	Lyons Str.	82	82	4.2	0029	Aug 29 am	3 496	TMCH 0.92

1987 HERBICIDE PROGRAM

LICENSEE: YORK REGION: 4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
4-8-1630	Little Lake Rd.	129	82	4.2	1148	Sept 5 pm	3 020	TMCH 0.83
4-8-1074	Napadogan Bk.	40	40	4.2	1051	Aug 27 am	1 668	TMCH 1.08
TOTAL		901	754	4.2			31 415	10.01

1987 HERBICIDE PROGRAM

LICENSEE: CARLETON REGION: 4

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
4-9-0881	Elliott Bk.	133	133	4.2	9021	Aug 21 pm; Aug 22 am	5 384	TMCH 1.43
4-9-0944	Juniper	121	119	4.2	0136,9019,9020	Aug 22 am	6 556	TMCH 2.92
4-9-1008	Governor's Bk.	127	127	4.2	0022,0043	Aug 22 am; Aug 26 pm; Aug 27 am	5 347	TMCH 1.08
4-9-1009	Mud Lake	354	170 184 354	4.2 4.94	0039,0041 0141,0146	Aug 24 am,pm Aug 25 am; Aug 26 am	13 453	TMCH 3.88
4-9-1010	Napadogan Lk.	67	67	4.2	9022	Aug 26 pm	2 391	TMCH 0.77
4-9-1078	W.Br. Clearwater Bk.	124	103	4.2	0035	Aug 28 am	4 086	TMH 2.00
TOTAL		926	719 184 903	4.2 4.94			37 217	12.08

1987 HERBICIDE PROGRAM

LICENSEE: RESTIGOUCHE TOBIQUE REGION: 1,5

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
								CBF
1-10 0060	Six Mile Bk.	125	99	4.2	0286,0293	Aug 13 am; Aug 14 am	4 163	2.20
					0251,0257,0258			CBF
1-10 0089	Whalen Gulch	255	255	4.2	0294,0295	Aug 19 am	9 471	3.53
			*75	4.2		Aug 18 am		TMCH
1-10 0160	Falls Brook	93	93	4.2	0259	Aug 17 pm; Aug 18 pm	6 751	1.70
								TMCH
1-10 0197	Falls Brook	121	121	4.2	0252,0253,0260,0290	Aug 17 pm	5 611	1.40
								TMCH
1-10 0235	Upper Four Mile Bk.	50	50	4.2	0268	Aug 15 am	2 159	0.57
								CBF
1-10 006	Pollard Bk.	98	81	4.2	0110	Aug 14 am	3 024	1.52
TOTAL REGION 1		742	699	4.2			31 177	10.92
					0280,0281,0292			TMCH
5 10 0193	Forks Branch Bk.	261	261	4.2	0299A,0299B,0299C	Aug 19 am	11 776	3.13
								TMCH
5-10 0194	Camp 69	67	67	4.2	0264	Aug 19 am	3 030	1.33

* 75 ha was done on Aug 18 am. Rained heavily on block, therefore resprayed the 75 ha, Aug 18 pm.

1987 HERBICIDE PROGRAM

LICENSEE: RESTIGOUCHE-TOBIQUE (Continued) REGION: 1,5

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
5-10-0231	Caribou Rd.	48	48	4.2	0265	Aug 19 am	2 196	TMCH 0.78
5-10-081	Iroquois R.	14	14	4.2	0204,0205	Aug 20 am	717	TMCH 0.70
5-10-105	Halfway Depot	12	12	4.2	P-54-80	Aug 20 am	681	TMCH 0.44
5-10-0303	Burnt Camp Bk.	5	5	4.2	0304	Aug 20 am	227	TMCH 0.17
5-10-0341	Ruiss Thibodeau	18	18	4.2	0296,0297	Aug 20 pm	644	TMCH 0.47
5-10-0342	Quisibis River	71	71	4.2	0270	Aug 20 pm	3 030	TMCH 1.13
5-10-0235	L.Main Restigouche R.	273	343	4.2	0269,0284,0291,0303	Aug 14 pm; Aug 15 am	15 749	TMCH 3.43
5-10-086	Kedgwick Forks	107	107	4.2	0305	Aug 15 pm	4 355	TMCH 1.10
5-10-0273	Five Fingers Bk.	59	59	4.2	0266	Aug 15 pm	2 576	TMCH 0.82

1987 HERBICIDE PROGRAM

LICENSEE: PESTIGOUCHE-TOBIQUE (Continued) REGION: 1,5

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
5-10 0351	Big Cedar Bk.	106	106	4.2	0272,0273	Aug 14 am	4 086	TMCH 1.03
5-10 0389	Big Cedar Bk.	125	122	4.2	0159,0274,0275 0276,0277	Aug 14 am	5 902	TMCH 1.82
5-10 390	Big Cedar Bk.	267	305	4.2	0278,0282,0283,0285 156,157, 145, 155	Aug 13 pm: Aug 14 am	13 464	TMCH 3.03
5 10 0516	Ruhar Bk.	161	153	4.2	0500,0502	Aug 12 am, pm	5 774	TMCH 2.48
5 10 0517	Ruhar Bk.	217	217	4.2	0508	Aug 13 am	8 097	TMCH 1.95
5 10 0553	McKeen Bk.	116	106	4.2	0507,0511(0517), 0513,0515	Aug 12 am; Aug 13 am	3 827	TMCH 1.33
5-10 0554	Rubar Bk.	275	275	4.2	0509	Aug 12 am, pm· Aug 13 am	12 103	TMCH 3.90
5-10 0586	Serpentine Lk.	106	106	4.2	0514	Aug 13 am	4 335	TMCH 1.55
5-10 0012	McDonald Gulch	51	51	4.2	0287,0288	Aug 14 pm	1 895	CBF 0.90

1987 HERBICIDE PROGRAM

LICENSEE: RESTIGOUCHE-TOBIQUE (Continued) REGION: 1,5

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
5-10-0014	States Lake	93	93	4.2	0244,0245,0246	Aug 13 am	3 777	CBF 1.90
5-10-0055	Indian Bk.	37	27	4.2	0248	Aug 13 pm; Aug 19 am	947	CBF 0.60
5-10-0056	Eighteen Mile Gulch	73	73	4.2	0261,0262	Aug 13 pm; Aug 14 pm	2 653	CBF 1.68
5-10-0059	Two Mile Bk.	496	491	4.2	0101, 0102,0103,0104,0105	Aug 12 am,pm; Aug 13 am	18 925	CBF 7.00
5-10-0082	Mud Lake	21	21	4.2	0263	Aug 15 pm	757	CBF 0.72
5-10-0085	Portage Bk.	75	40	4.2	0106	Aug 13 pm	1 512	CBF 0.97
5-10-0087	Hornes Gulch	121	121	4.2	0254,0255,0256	Aug 13 am; Aug 14 am Aug 15 pm; Aug 18 am	5 300	CBF 2.20
5-10-037	Moose Valley Bk.	15	15	4.2	TP-11-82	Aug 19 am	568	CBF 0.47

1987 HERBICIDE PROGRAM

LICENSEE: RESTIGOUCHE-TOBIQUE (Continued) REGION: 1,5

AREA #	LOCATION	ORIGINAL AREA (HA)	TREATED AREA (HA)	RATE OF HERBICIDE (L/HA)	BLOCK #	DATES SPRAYED	VOLUME DELIVERED (L)	APPLICATOR'S FLIGHT TIME (hrs)
5-10-060	Sunset Peak	41	41	4.2	0207	Aug 19 am	1 439	CBF 0.60
5-10-0314	Pat Brook	31	31	4.2	0267	Aug 22 am	1 249	CBF 0.90
TOTAL REGION 5		3 362	3 399				141 611	48.53
T O T A L		4 104	4 098	4.2			172 788	59.45

APPENDIX V

Summary of the Herbicide Program for the S.N.B. Wood Co-Operative

Location	Owner	# ha treated	Rate of Vision L/ha	Volume Spray delivered (l)	Date Sprayed
Shannon	McCrae Farms Ltd.	43	4.2	2 160	Sept 11 am
Apohaqui	W. Jones	51	4.2	2 327	Sept 8 am. Sept 11 am
	F. Vincent	.3			
		54			
Poodiac	J. Murray	12	4.2	454	Sept 7 am
Cornhill	R.V. Colpitts	18	4.2	681	Sept 8 am
Havelock	A. Alward	27	4.2	908	Sept 8 am
Havelock	B. Thorne	13	4.2	454	Sept 8 am
Brookville	M. Call	13	4.2	607	Sept 7 pm
Midway	R. MacDonald	6	4.2	227	Sept 7 pm
Walker Settlement	D. Oxley	75	4.2	3 104	Sept 7 am
New Ireland	H. Tingley	31	4.94	1 362	Sept 7 am
	T O T A L	292		12 284	